

Patent Abstracts of Japan

PUBLICATION NUMBER : 05335622
PUBLICATION DATE : 17-12-93

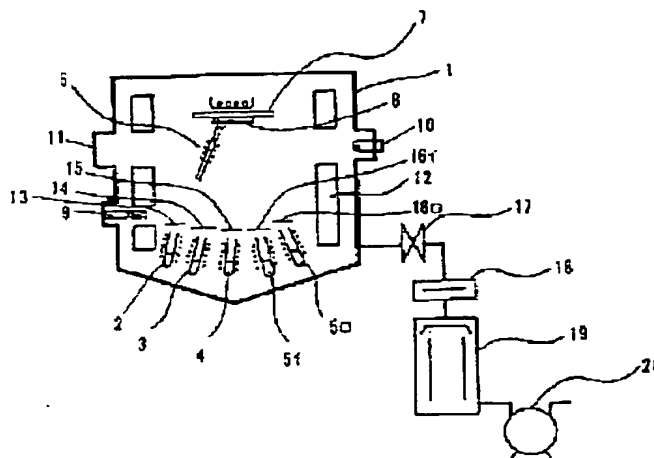
APPLICATION DATE : 27-05-92
APPLICATION NUMBER : 04135220

APPLICANT : ASAHI CHEM IND CO LTD;

INVENTOR : IMAI HIDEAKI;

INT.CL. : H01L 33/00

TITLE : SEMICONDUCTOR LIGHT-EMITTING
DEVICE



ABSTRACT : PURPOSE: To obtain a gallium nitride semiconductor device having high light extracting efficiency by forming a light emitting layer of a gallium nitride compound and extracting light from an electrode on which a pattern for uniformly applying a voltage is formed.

CONSTITUTION: After an n-GaN semiconductor layer is formed by opening a Ga shutter 13 while a substrate 8 is heated to and maintained at 700°C and an ammonia gas is supplied from a cracking gas cell 6, a Zn-doped p-GaN semiconductor layer is grown on the n-GaN semiconductor layer by opening shutters 13 and 16b. Then an element pattern and electrodes are formed through a precise machining process and an Al electrode and netlike Au electrode (covering 25% of the surface) are respectively formed on the surface of the n-GaN and p-GaN semiconductor layers by vacuum deposition. Therefore, a semiconductor light emitting device having an excellent performance can be obtained when a package is formed after elements are cut off with a dicing saw and wiring is made with gold wires.

COPYRIGHT: (C) JPO